

**LEADER EMPOWERING BEHAVIOUR, ORGANISATIONAL
COMMITMENT AND TURNOVER INTENTION WITHIN
THE GOLD MINING INDUSTRY**

Zelna Maré, Hons (BA)

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Supervisor: Dr. W. J. Coetzer

Assistant Supervisor: Dr. J. Pienaar

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REMARKS

The reader is reminded of the following:

- The references as well as the editorial style as prescribed by the Publication Manual (5th edition) of the American Psychological Association (APA) were followed in this mini-dissertation. This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University (Potchefstroom Campus) to use APA style in all scientific documents as from January 1999.
- The mini-dissertation is submitted in the form of one research article.

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SUMMARY

Topic: Leader empowering behaviour, organisational commitment and turnover intention within the gold mining industry

Key terms: Leader empowering behaviour, organisational commitment, turnover intention, work performance, productivity

The mining industry has been under enormous pressure in the past few years, particularly with issues around production and costs. As far as human capital is concerned, the gold industry has seen a high degree of shrinkage in personnel. In order to be able to cope with the continuous challenges faced by the mining industry, mining organisations need leaders of the highest standards.

Due to the challenge of increasing productivity levels, empowerment is required within the gold mining industry. The correct application of empowerment may increase efficiency and effectiveness inside an organisation. Having employees with the appropriate levels of organisational commitment facilitates the change management process and ensures its successful implementation. Organisations value commitment among their employees because it is typically assumed to reduce withdrawal behaviours, such as lateness, absenteeism and turnover.

The objective of this study was to determine the relationship between leader empowering behaviour, organisational commitment and turnover intention within the mining industry.

The research method consists of a literature review and an empirical study. A cross-sectional survey design was used to collect the data. An availability sample ($N = 388$) was taken from mining employees. The Leader Empowering Behaviour Questionnaire (LEBQ), Affective Organisational Commitment Scale (AOC), Turnover Intention Scale (TI) and a biographical questionnaire were administered. The statistical analysis was carried out with the help of the SPSS program as well as the AMOS program.

The results indicated that the LEBQ consists of one factor (labelled leader empowering behaviour) or of six factors (labelled delegation of authority, accountability, self-directed decision-making, information sharing, skills development, and coaching for innovative performance) within the gold mining industry. The six-factor structure was used within this study. One factor could be extracted on the AOC. This factor was labelled Affective Organisational Commitment. One factor could be extracted on the TI. This factor was labelled Turnover Intention.

Cronbach alpha coefficients varying between 0,58 and 0,78 were obtained. The alpha coefficients compare reasonably well with the guideline of 0,70 (0,55 in basic research), demonstrating that a large portion of the variance is explained by the dimensions (internal consistency of the dimensions), except for accountability ($\alpha = 0,63$), coaching for innovative performance ($\alpha = 0,57$) and affective organisational commitment ($\alpha = 0,57$). Most of the scales of the measuring instruments have relatively normal distributions, with low skewness and kurtosis.

Pearson product-moment correlations indicated that when leader empowering behaviour increases, affective organisational commitment will also increase, and when leader empowering behaviour (specifically delegation of authority, information sharing, and skills development) increases, turnover intention will decrease. Leader empowering behaviour was found to be a statistically significant predictor of affective organisational commitment as well as turnover intention. However, the hypothesised mediating effect of affective organisational commitment could not be established and affective organisational commitment is therefore not a mediator between leader empowering behaviour and turnover intention in a sample of employees in the gold mining industry.

MANOVA analysis indicated that participants in a supervisory position experience higher levels of delegation of authority and self-directed decision-making than participants that are not in a supervisory position. Female participants experience higher levels of affective organisational commitment, delegation of authority, skills development and coaching for innovative

performance than male participants. African language groups experience higher levels of affective organisational commitment than Afrikaans/English language groups.

Recommendations were made for future research.

OPSOMMING

Onderwerp: Leierbemagtigingsgedrag, organisasietoegewydheid en bedankingsgeneigdheid in die goudmynbedryf.

Sleuteltermes: Leierbemagtigingsgedrag, organisasietoegewydheid, bedankingsgeneigdheid, werksprestasie, produktiwiteit.

Die mynbedryf het die afgelope paar jaar onder geweldige druk gebuk gegaan, in besonder weens aangeleenthede rakende produksie en koste. Wat mensekapitaal betref, het die goudbedryf 'n hoë graad van inkrimping ten opsigte van personeel ondergaan. Om met die voortgesette uitdagings waardeur die mynbedryf in die gesig gestaar word, te kan cope, het die mynorganisasies leiers van die hoogste gehalte nodig.

Weens die uitdagings rakende toenemende produktiwiteitsvlakke word bemagtiging in die goudmynbedryf vereis. Die juiste toepassing van bemagtiging kan doelmatigheid en doeltreffendheid binne 'n organisasie verhoog. Deur werknemers met die toepaslike organisasietoegewydheidsvlakke te hê, word die veranderingsbestuursproses gefasiliteer en die geslaagde implementering daarvan verseker. Organisasies heg waarde aan toegewydheid onder hul werknemers omdat daar kenmerkend aanvaar word dat dit onttrekkingsgedrag soos laatkom, afwesigheid en bedanking laat afneem.

Die doelstelling van hierdie studie was om die verhouding tussen leierbemagtigingsgedrag, organisasietoegewydheid en bedankingsgeneigdheid in die goudmynbedryf te bepaal.

Die navorsingsmetode bestaan uit 'n kort literatuuroorsig en 'n empiriese studie. 'n Dwarssnee-ontwerp is gebruik om data in te samel. 'n Beskikbaarheidsteekproef ($N = 388$) is van myn werknemers geneem. Die Leierbemagtigingsgedrag-vraelys (LEBQ), Organisasietoegewydheidsvraelys (AOC), Bedankingsgeneigdheid-vraelys (TI) en 'n biografiese vraelys is afgeneem. Die statistiese analise is uitgevoer met behulp van die SPSS program sowel as die AMOS program.

Die resultate het getoon dat die LEBQ uit een faktor (bekend as leierbemagtigingsgedrag) bestaan of uit ses faktore bekend as delegering van gesag, aanspreeklikheid, self-gerigte besluitneming, inligtingsuitruiling, vaardigheidsontwikkeling en afrigting vir innoverende prestasie) binne die goudmynbedryf. Die sesfaktor-struktuur is in hierdie studie gebruik. Een faktor kon op die AOC onttrek word. Hierdie faktor word bestempel as Affektiewe Organisasietoegewydheid. Een faktor kon op die TI onttrek word. Hierdie faktor word bestempel as Bedankingsgeneigdheid.

Cronbach alpha-koëffisiënte wat wissel tussen 0,58 en 0,78 is verkry. Die alpha-koëffisiënte vergelyk betreklik goed met die riglyn van 0,70 (0,55 in basiese navorsing), wat aandui dat 'n groot deel van die variansie deur die dimensies (interne konsekwenheid van die dimensies) verklaar word, met die uitsondering van aanspreeklikheid ($\alpha = 0,63$), afrigting vir innoverende prestasie ($\alpha = 0,57$) en affektiewe organisasietoegewydheid ($\alpha = 0,57$). Die meeste skale van die meetinstrumente bevat betreklik normale verspreidings, met lae skeefheid en kurtose.

Pearsonkorrelasies in die studie het getoon dat wanneer leierbemagtigingsgedrag verhoog dit affektiewe organisasietoegewydheid ook verhoog en dat wanneer leierbemagtigingsgedrag (spesifiek delegering van verantwoordelikheid, inligtingsuitruiling en vaardigheidsontwikkeling) verhoog, dit die bedankingsgeneigdheid sal verlaag. Daar is bewys dat leierbemagtigingsgedrag 'n statisties betekenisvolle voorspeller is van affektiewe organisasietoegewydheid en bedankingsgeneigdheid. Die mediator-effek van affektiewe organisasietoegewydheid kon nie bevestig word nie en is daarom nie 'n mediator tussen leierbemagtigingsgedrag en bedankingsgeneigdheid in 'n steekproef van werknemers in die goudmynbedryf nie.

MANOVA-analises het getoon dat deelnemers wat in 'n toesighoudende posisie is, hoër delegeringsvlakke van verantwoordelikheid en selfgerigte besluitneming ervaar as die wat nie in toesighoudende posisies is nie. Vroulike deelnemers ervaar hoër vlakke van affektiewe organisasietoegewydheid, delegering van verantwoordelikheid, vaardigheidsontwikkeling en afrigting vir innoverende prestasie as manlike deelnemers. Afrikataal-groepe ervaar hoër vlakke van affektiewe organisasietoegewydheid as Afrikaans/Engelse taalgroepe.

Aanbevelings vir toekomstige navorsing is aan die hand gedoen.

CHAPTER 1

INTRODUCTION

This mini-dissertation focuses on leader empowering behaviour, organisational commitment and turnover intention within the gold mining industry.

Chapter 1 contains the problem statement, research objectives and research methodology employed. The chapter starts out with a problem statement, giving an overview of previous related research conducted on leader empowering behaviour, organisational commitment and turnover intention within the gold mining industry, linking it with the objectives set for this research project. A discussion of the research method follows, with details regarding the empirical study, research design, participants, measuring instruments and statistical analysis. It concludes with a chapter summary and an overview of the chapters that comprise this mini-dissertation.

1.1 PROBLEM STATEMENT

The mining industry plays a vital role in the development and sustainability of the South African economy. As one of the anchors of the economy, the industry assists in enabling the country to become more competitive in the global village (Van Zyl, Human, & Tshabalala, 2004). The contribution made to the economy is based on the ability of mining organisations to employ large numbers of people, to develop communities and skills (National Union of Mineworkers, 2004), and to be able to generate foreign exchange earnings (Chamber of Mines, 2005).

As the move into the 21st century takes place, the challenges in mining and minerals processing are becoming greater (Annual Gold Fields Report, 2005). Not only does the mining industry face extremely difficult challenges related to technical, financial, and human capital issues (Mogotsi, 2004) but with some minerals still being mined at great depths, there is an increased tendency to work low-grade deposits in large open pit (surface) operations. In this process, great tonnages of

soil and ore are shifted by large earth-moving machines and ore carriers (Annual Report Chamber of Mines, 2005). The move to mechanisation, automation and computers assisted mining organisations to keep costs down, increase production targets and maximise efficiency (Annual Report Chamber of Mines, 2005). However, the mining industry has been under enormous pressure in the past few years particularly with issues around production and costs, often reflected in rationalisation of numbers of personnel.

As far as human capital is concerned, the gold mining industry has seen a high degree of shrinkage in personnel (De Lange, 2005; Van der Walt, 2005). Over the past decade, the number of employees on gold mines has more than halved, from 429 649 in 1991 to 197 091 in 2000, due to, amongst others, more advanced technologies (Annual Report Chamber of Mines, 2005). Compounded by this issue is the impact of HIV/AIDS, which has become endemic among migrant mine workers (De Lange, 2005; Van der Walt, 2005). This has led to a situation where mines have seen an increased expenditure on medical insurance and disability cover and higher indirect labour costs through reduced productivity, higher absenteeism, and the need to train and replace labour (Mogotsi, 2004).

The above-mentioned factors suggest that the most fundamental challenge facing the South African gold mining industry is the core issue of productivity and optimal utilisation of human capital. According to the Chamber of Mines (2005), productivity is the key to survival in the mining industry. With gold production declining by 5,40% annually, the industry is in a struggle for survival. Other factors that contribute to this situation are the increases in the price of water and that of steel, freight business and rail tariffs and labour costs (Chamber of Mines, 2005). A characteristic of the mining industry is its vulnerability to realities beyond its control, such as the foreign exchange rate and significant world events. A buffer against this vulnerability is maximising productivity and human development (Annual Report Chamber of Mines, 2005).

Faced with the challenge of increasing productivity levels, the gold mining industry requires leadership of the highest standard. Employee empowerment can be a powerful tool in this regard. It challenges the hierarchical forms of leadership where the final authority was traditionally concentrated at the top of the organisational hierarchy (Bourke 1998). The correct application of

empowerment may increase efficiency and effectiveness inside an organisation (Eylon & Herman, 1999), and increase productivity and reduce overhead expenses (i.e. salaries, rent and advertising) (Clark, 1999). Empowerment of employees provides managers with the freedom to dedicate their time to strategic matters (Eylon & Herman, 1999).

Many approaches to organisational change, such as total quality management, re-engineering, and self-managed teams depend on employee involvement and empowerment (Taylor, 2004). High-involvement organisations view employees at all levels as true partners in achieving their objectives and push down decision-making responsibility to the operational level. Such practices allow organisations to tap into the creativity and energy of their employees to an extent that is not possible with traditional forms of management (Howard & Wellins, 1994). Although high involvement can help enhance organisational competitiveness, it is not a simple solution (Howard, 1997). To support high involvement, organisations must share information, knowledge, power to act, and rewards throughout the work-force. Moreover, employees cannot be expected to assume new functional responsibilities and authority without a great deal of guidance and support from their leaders. This implies that the role of the leader must change dramatically (Howard, 1997).

In the complex area of people management paradigms, the terms *Involvement*, *Empowerment*, and *Participation* are frequently used within the literature but often interpreted quite differently, depending on the perspective of the reader and/or writer. It is thus necessary to distinguish between *involvement*, *empowerment* and *participation*.

Employee involvement is a range of processes designed to engage the support, understanding and optimum contribution of all employees in an organisation and their commitment to its objectives (Shain, 2001). Employee participation is defined as “a process of employee involvement designed to provide employees with the opportunity to influence and where appropriate, take part in decision-making on matters which affect them” (Rose, 2001, p. 380). It is a pluralist/collective approach with a continuum from ‘no involvement’ to ‘employee control’ (Hayes, 1994). The role of empowerment within these approaches is more complex and hinges

on interpretations of 'power' and how 'empowered' workers actually are (Wyer & Mason, 1999).

Empowerment is seen as a management control and/or manipulation tool, but also as essential for achievement of maximum organisational potential. Hyman and Mason (1995) indicated that empowerment is predominantly about encouraging front-line staff to solve customer problems on the spot, without constant recourse to management approval. It is a management strategy for sharing decision-making power in the organisation (Wyer & Mason, 1999).

In recent years the issue of employee empowerment has received increasing attention (Zani & Pietrantonio, 2001). Despite its popularity though, relatively little rigorous empirical research has been conducted on its antecedents and consequences (Menon, 2001). Identified 'determinants' of empowerment may be grouped into four major categories, namely: person factors which comprise employee demographics (Mainiero, 1986; Spreitzer, 1996; Zani & Pietrantonio, 2001) and psychological variables (Dimitriades, 2002; Honneger & Appelbaum, 1998; Menon, 2001; Menon & Hartmann, 2000; Spreitzer, 1995); job and/or work role factors (Cagne, Senecal & Koestner, 1997; Hayes, 1994; Savery & Lucks, 2001; Spreitzer, 1996); organisation factors (Menon, 2001; Menon & Pethe, 2002; Sagie, 2002; Siegall & Gardner, 2000; Spreitzer, 1995, 1996); and context factors (Cunningham, Hyman & Baldry, 1996). Reported outcomes of employment empowerment include job involvement (Menon, 2001; Menon & Pethe, 2002); job satisfaction (Hayes, 1994; Savery & Lucks, 2001); organisational commitment (Menon, 2001); and extra-role behaviour (Menon, 2001).

Empowerment research has highlighted a number of issues that warrant further investigation (Dimitriades, 2000). Specifically, mixed findings have been reported on the relationship between gender and empowerment (Honneger & Appelbaum, 1998; Mainiero, 1986; Sagie, 2002; Spreitzer, 1996; Zani & Pietrantonio, 2001) as well as between age and empowerment (Honneger & Appelbaum, 1998). Also, knowledge on the relationship between empowerment and organisation size (Spreitzer, 1996; Wyer & Mason, 1999) and industry type (Cunningham et al., 1996) is at best limited and inconclusive.

Several authors have associated leaders' characteristics with the development of either organisational commitment or trust (Bennis & Goldsmith, 1994; Bennis & Townsend, 1995; Kerfoot, 1998). Bennis and Goldsmith (1994), and Bennis and Townsend (1995) believe that vision, empathy, consistency and integrity in a leader could foster the development of trust. They also indicate that leaders generate and sustain trust by acting in ways that produce constancy, congruity, reliability and integrity. Kerfoot (1998) adds to these availability and accessibility, communicating with candour and a willingness to invest in employees.

According to human resource management (HRM) philosophy, organisational commitment is the joint responsibility of line managers and the human resources department (Whitener, 2001). The way leaders behave as they practice the organisation's human resources policies can influence employee's behaviour (Whitener, 2001). According to Whitener (2001), organisations that have supervisors who treat employees fairly as they enact procedures and HR practices could increase their employee's trust in the organisation and supervisors, which will in turn positively affect the levels of organisational commitment.

Employees who feel committed to their organisation are more likely to stay in their occupation than people who feel no commitment towards the organisation (Mowday, 1998; Raju & Srivastava, 1994). When something does not go as planned an employee who has commitment to the organisation will be able to minimise the impact and move on with their work, whereas the non-committed employee will probably leave the organisation. Due to the commitment felt towards the organisation, employees will want to stay in the organisation and they will feel motivated (Blau, 2001).

Organisational commitment is defined as the degree to which employees feel devoted to their organisation (Meyer, Allen & Smith, 1993). It has three main facets, namely affective, continuance, and normative, each with its own underlying 'psychological states' (Meyer & Allen, 1997). Affective commitment refers to the emotional bond and the identification the employee has with the organisation. For the employees the positives include enhanced feelings of devotion, belongingness, and stability (Meyer & Allen, 1991). Continuance (economic/calculative) commitment refers to what the employees will have to give up if they

have to leave the organisation or on other terms, the material benefits to be gained from remaining in the organisation (Meyer & Allen, 1991). Employees whose primary link to the organisation is based on continuance commitment remain with the organisation because they feel they need to do so for material benefits (Meyer & Allen, 1991). Therefore, if employees believe that fewer viable alternatives are available, their continuance commitment (or *moral* commitment (Jaros, Jermier, Koehler & Sincich, 1993) reflects a feeling of obligation to continue employment. Employees with a high level of normative commitment feel that they ought to or are obliged to remain with the organisation (Bentein, Vandenberghe & Stinglhamber, 2005). Commitment is determined by being obligated to work in the organisation, a sense of moral obligation in following their parents, who may have been long-term employees of the organisation before, or a sense of duty to belong (Jaros et al., 1993). Meyer, Stanley, Herscovitch and Topolynitsky, (2002) and Mowday, Porter and Steers (1982) have found that committed employees are more likely to remain with the organisation and strive towards the organisation's mission, goals and objectives.

An employee who has high organisational commitment is also willing to bear extra effort on behalf of the organisation (Mayer & Schoorman, 1992). Thus, employees with a strong emotional attachment (affective commitment) tend to work harder and are therefore more productive and have a strong emotional desire to sustain economical/calculative ties with the organisation (continuance commitment), and will stay because of the 'side bets' they have invested in the organisation. The side bets can be of monetary value, a pension plan, specific skills acquired whilst working there or status, and that could be lost if he/she decides to leave (Becker, 1960).

The association between affective commitment and turnover has been well established in previous research (Iverson & Buttigieg, 1999; Mathieu & Zajac, 1990; Mowday et al., 1982). Affective commitment is one of the best predictors of voluntary turnover (Griffeth, Hom & Gaertner, 2000), whilst negative relationships were found between continuance commitment and turnover intention (Chen, Hui & Sgo, 1999; Jaros et al., 1993). It is expected that both affective and continuance commitment will be negatively associated with turnover intention (Meyer et al., 2002).

Retention and productivity levels of the existing work-force are an essential concern in the mining industry (Chamber of Mines, 2005). Employees may exit an organisation either voluntarily or involuntarily. For purposes of this research, turnover intention is defined as an employee's decision to leave an organisation voluntarily (Doughterty, Bluedorn & Keon, 1985; Mobley, 1977). Employees leave for a number of reasons, some to escape negative work environments, some in alignment with their career goals, and some to pursue opportunities that are financially more attractive (Mathieu & Zajac, 1990). Involuntary turnover is usually employer initiated, where the organisation wishes to terminate the relationship due to incompatibilities in matching its requirements. Involuntary turnover can also include death, mandatory retirements, and ill health (Mobley, Horner & Hollingworth, 1978).

Turnover intention has been identified as the immediate precursor for turnover behaviour (Mobley et al., 1978; Tett & Meyer, 1993). It has been recognised that the identification of variables associated with turnover intentions is considered an effective strategy in reducing actual turnover levels (Maertz & Campion, 1998). An employee's exit from an organisation is a direct cost, in the form of having to select, recruit, and train a new employee (Dalton, Todor & Krackhardt, 1982; Staw, 1980). The exiting of employees also has indirect cost implications that include reduced morale, pressure on the remaining staff, costs of learning, and the loss of social capital (Des & Shaw, 2001). The cost of losing a high performer who has a high degree of knowledge, skills and abilities, or an employee, who is employed in an area where there is a labour market shortage, can be substantial to the organisation's performance, productivity, and service delivery (Maertz & Campion, 1998).

In addition, turnover can have a negative impact on other employees by disrupting group socialisation processes and increasing internal conflict, which can lead to triggering additional turnover (North, Rasmussen, Hughes & Finlayson, 2005). Turnover of employees may in itself trigger additional turnover by causing a decline in confidence and by highlighting the fact that alternative jobs are available. In addition, the interpersonal bond that is developed between employees is central to the communication patterns that are characteristic and unique to any organisation.

It is widely believed that significant amounts of turnover adversely influence organisational effectiveness and disrupt performance and productivity (Horn & Kinichi, 2001). Turnover can be positive and negative to individual employees, organisations and communities (Mobley, 1982). On an individual level, the employee may decide to leave a stressful work and move into a different position or work that may be more in line with their career objectives or the employee could disrupt the family's social support system and take a position that does not live up to expectations as promised by the organisation (Horn & Kinichi, 2001). Turnover is also associated with an individual's ability to move into new organisations, which is vital for the future development of organisations. However, if turnover is excessive, organisational productivity may be decreased (Mobley, 1982). This is important as work-force turnover is of critical importance to organisations. Lack of employee continuity, lack of organisational stability, productivity and the cost of induction and training of new staff are challenges that result from turnover (Firth, Mellor, Moore & Loquet 2004; Siong, Mellow, Moore & Firth 2006).

Organisations need productive employees to achieve production of goods of acceptable quality in order to realise its economic, social and employee-related goals (Arnolds, 2001). Within the competitive global economy, this is even more prevalent for South African organisations. Of critical importance to these organisations are how employees are to be motivated to increase their job performance and therefore their productivity and to better understand the role of leader empowering behaviour in these processes. From the above it is therefore necessary to conduct research on the relationship between leader empowering behaviour, organisational commitment and turnover intention amongst mining employees in the gold mining industry in South Africa.

This research will attempt to answer the following questions:

- How is leader empowering behaviour, organisational commitment, and turnover intention conceptualised from the literature?
- What is the relationship between leader empowering behaviour, organisational commitment, and turnover intention according to the literature?
- What is the relationship between leader empowering behaviour, organisational commitment, and turnover intention within the gold mining industry?

- How valid and reliable are the measuring instruments of leader empowering behaviour, organisational commitment, and turnover intention within the gold mining industry?
- Does organisational commitment mediate the relationship between leadership empowering behaviour and turnover intention within the gold mining industry?

1.2 RESEARCH OBJECTIVES

The research objectives are divided into a general objective and specific objectives.

1.2.1 General Objective

With reference to the above formulation of the problem, the general objective of this research is to determine the relationship between leader empowering behaviour, organisational commitment, and turnover intention within the gold mining industry in South Africa.

1.2.2 Specific Objectives

The specific research objectives are as follows:

- To conceptualise leader empowering behaviour, organisational commitment, and turnover intention from the literature.
- To determine the relationship between leader empowering behaviour, organisational commitment, and turnover intention according to the literature.
- To determine the construct equivalence and internal consistency of the measuring instruments of leader empowering behaviour, organisational commitment, and turnover intention within the gold mining industry.
- To determine the relationship between leader empowering behaviour, organisational commitment, and turnover intention within the gold mining industry in South Africa.
- To determine whether organisational commitment mediates the relationship between leadership empowering behaviour and turnover intention within the gold mining industry.

- To determine the differences in leader empowering behaviour, organisational commitment and turnover intention experienced, based on certain demographic factors.
- To make recommendations for future research.

1.3 RESEARCH METHOD

The research method consists of a literature review and an empirical study. The results obtained from the research are presented in the form of a research article.

1.3.1 Literature Review

A literature study will be undertaken to gather information on leader empowering behaviour, organisational commitment, and turnover intention.

1.3.2 Research Design

A cross-sectional design, with a survey as the data collection technique, will be used to achieve the research objectives. Cross-sectional designs are used to examine groups of subjects in various stages of development simultaneously, while a survey is a data-collection technique in which questionnaires are used to gather data concerning an identified population (Burns & Grove, 1993). Information collected is used to describe the population at a particular point in time. This design can also be used to assess interrelationships among variables within a population. According to Shaughnessy and Zechmeister (1997), this design is best suited to address the descriptive and predictive functions associated with the correlational design, whereby relationships between variables are examined.

1.3.3 Participants

The study population will consist of an availability sample of members within the gold mining industry. A total population of 395 employees were targeted.

1.3.4 Measuring Battery

The following measuring instruments were used in the research: the Leader Empowering Behaviour Questionnaire (LEBQ) (Konczak, Stelly & Trusty, 2000), a measure of affective organisational commitment (AOC) (Allen & Meyer, 1990), and turnover intention (TI) (Sjöberg & Sverke, 2000), and finally a biographical questionnaire.

The *Leader Empowering Behaviour Questionnaire* (LEBQ) (Konczak et al., 2000) is a 22-item scale that measures leader empowering behaviour. Items are measured on a 7-point Likert scale ranging from 1 (strongly agree) to 7 (strongly disagree), with high scores indicating higher perceptions of empowering leader behaviours, e.g. "My manager gives me the authority to make changes necessary to improve things". The LEBQ has shown internal consistency ratings ranging from $\alpha=0,85$ to $0,90$ (Konczak et al., 2000; Laramore, 1997). No South African reliability results are available, and the use and validation of this instrument thus presents a unique contribution of the current study.

The *Affective Organisational Commitment Scale* (AOC) is the short version of the scale developed by Allen and Meyer (1990), measuring affective commitment to the organisation. The response alternatives ranged from 1 (disagree) to 5 (agree), and a high score reflects strong commitment to the organisation, e.g. "I have a strong sense of affinity to the organisation I work for". Inter-correlations between populations were found to be consistent above $0,90$ (Allen & Meyer, 1990). The internal consistency for this subscale of the questionnaire has been confirmed at the $0,80$ level (Suliman & Iles, 2000). In a South African sample of employees working in a parastatal, an alpha of $0,65$ were obtained (Buitendach & De Witte, 2005).

The *Turnover Intention Scale* (TI) consists of three items developed by Sjöberg and Sverke (2000) and measures the strength of the respondent's intentions to leave the present position. The response alternatives ranged from 1 (disagree) to 5 (agree), and a high score reflects a strong intention to leave the job, e.g. "If I was completely free to choose I would leave this job". Sjöberg and Sverke (2000) obtained an alpha of $0,83$. No South African reliability results are available.

A *biographical questionnaire* was developed to gather information concerning the demographical characteristics of the participants. Information gathered included age, gender, race, home language, education, marital status and years employed in current position.

1.3.5 Statistical analysis

The statistical analysis was carried out with the help of the SPSS program (SPSS Inc., 2003) and the AMOS program (Arbuckle, 2003). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) were used to analyse the data. Cronbach alpha coefficients were used to determine the internal consistency, homogeneity and unidimensionality of the measuring instruments (Clark & Watson, 1995). Coefficient alpha contains important information regarding the proportion of variance of the items of a scale in terms of the total variance explained by that particular scale.

Pearson product-moment correlation coefficients were used to specify the relationships between the variables. In terms of statistical significance, it was decided to set the value at a 95% confidence interval level ($p \leq 0,05$). Effect sizes (Steyn, 1999) were used to determine the practical significance of the findings. A cut-off point of 0,30 (medium effect, Cohen, 1988) was set for the practical significance of correlation coefficients.

Covariance analysis or structural equation modelling (SEM) methods, as implemented by AMOS (Arbuckle, 2007), were used to construct and test the theoretical factor structure of the Leader Empowering Behaviour Questionnaire. Hypothesised relationships are tested empirically for goodness-of-fit with the sample data. The χ^2 and several other goodness-of-fit indices summarise the degree of correspondence between the implied and observed covariance matrices. However, because the χ^2 statistic equals $(N-1)F_{min}$ this value tends to be substantial when the model does not hold and the sample size is large (Byrne, 2001). Researchers addressed the χ^2 limitation by developing goodness-of-fit indices that take a more pragmatic approach to the evaluation process.

A value < 2 for $\chi^2/\text{degrees of freedom ratio (CMIN}/df)$ (Wheaton, Muthén, Alwin & Summers, 1977) indicates acceptable fit (Tabachnick & Fidell, 2001). The Goodness-of-Fit Index (GFI) indicates the relative amount of variance and co-variance in the sample predicted by the estimates of the population. It usually varies between 0 and 1, and a result of 0,90 or above indicates a good model fit. The Adjusted Goodness-of-Fit Index (AGFI) is a measure of the relative amount of variance accounted for by the model, corrected for the degrees of freedom in the model relative to the number of variables. Both these values are classified as absolute values, because they compare the hypothesised model with no model at all (Hu & Bentler, 1995). Although both indices vary between 0 and 1, the distribution of the AGFI is unknown, and consequently no critical value can be obtained (Jöreskog & Sörbom, 1986). The Parsimony Goodness-of-Fit Index (PGFI) addresses the issue of parsimony in SEM (Mulaik et al., 1989). Although this index generally demonstrates lower levels compared to the other fit indices at the 0,50 level, values $> 0,80$ are considered to be appropriate (Byrne, 2001).

The Normed Fit Index (NFI) is used to measure global model fit. The NFI represents the point at which the model being evaluated falls on a scale running from a null model to perfect fit. This index is normed to fall on a 0 to 1 continuum and tends to overestimate fit in smaller samples. The Comparative Fit Index (CFI) also compares the hypothesised and independent models, but takes sample size into account. The Tucker-Lewis Index (TLI) is a relative measure of covariation explained by the hypothesised model which has been specifically designed for the assessment of factor models (Tucker & Lewis, 1973). Critical values for good model fit have been recommended for the NFI, CFI and TLI to be acceptable above the 0,90 level (Bentler, 1992), although recently Hu and Bentler (1999) recommended a cut-off value of 0,95. The Root Mean Square Error of Approximation (RMSEA) estimates the overall amount of error; it is a function of the fitting function value relative to the degrees of freedom (Brown & Cudeck, 1993). Hu and Bentler (1999) suggested a value of 0,06 to indicate acceptable fit, whereas MacCallum, Browne and Sugawara (1996) recently suggested that values between 0,08 and 1,0 indicate mediocre fit and values above 1,0 poor fit.

A multiple regression analysis was conducted to determine the mediating effect of affective organisational commitment between leader empowering behaviour and turnover intention. The procedures as described by Baron and Kenny (1986) were followed. Mediation can be illustrated

by regressing the mediator on the independent variable and showing it to have an effect, then by showing the dependent variable to have an effect on the independent variable in the second regression, and finally by regressing the dependent variable on both the proposed mediator and independent variable, and finding that the mediator affects the dependent variable (see Baron & Kenny, 1986).

Multivariate analysis of variance (MANOVA) was used to determine the significance of differences between the levels of leader empowering behaviour, affective organisational commitment, and turnover intention of demographic groups. MANOVA tests whether or not mean differences among groups in a combination of dependent variables are likely to have occurred by chance (Tabachnick & Fidell, 2001). In MANOVA, a new dependent variable that maximises group differences was created from the set of dependent variables. Wilk's Lambda was used to test the likelihood of the data, on the assumption of equal population mean vectors for all groups, against the likelihood on the assumption that the population mean vectors were identical to those of the sample mean vectors for the different groups. When an effect was significant in MANOVA, one-way analysis of variance (ANOVA) was used to discover which dependent variables had been affected. Seeing that multiple ANOVAs were used, a Bonferroni-type adjustment was made for inflated Type I error. Tukey tests were done to indicate which groups differed significantly when ANOVAs were performed.

1.4 DIVISION OF CHAPTERS

Chapter 1: Introduction

Chapter 2: Research Article

Chapter 3: Conclusions, Limitations and Recommendations

1.5 CHAPTER SUMMARY

Within this chapter an overview was given of the problem statement and research objectives. The measuring instruments and research method used in this research were explained, followed by a brief overview of the chapters that follow.

The empirical study will be discussed in Chapter 2, and limitations and recommendations highlighted in Chapter 3.

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LEADER EMPOWERING BEHAVIOUR, ORGANISATIONAL COMMITMENT AND TURNOVER INTENTION WITHIN THE GOLD MINING INDUSTRY¹

Z. Maré

*WorkWell: Research Unit for People, Policy and Performance, North-West University,
Potchefstroom, South Africa*

ABSTRACT

The objective of this study was to determine the relationship between leader empowering behaviour, organisational commitment and turnover intention within the gold mining industry. A cross-sectional survey design with an availability sample of ($N = 388$) was used. The Leader Empowering Behaviour Questionnaire (LEBQ), Affective Organisational Commitment Scale (AOC), and Turnover Intention Scale (TI) were administered. The result showed that leader empowering behaviour consists of a six-factor structure (i.e. delegation of authority, accountability, self-directed decision-making, information sharing, skills development and coaching for innovative performance), commitment consists of a one-factor structure (i.e. affective organisational commitment) and turnover intention of a one-factor structure (i.e. turnover intention). Leader empowering behaviour is a significant predictor of both affective organisational commitment and turnover intention. The mediating effect of affective organisational commitment could not be confirmed.

OPSOMMING

Die doelstelling van hierdie studie was om die verhouding tussen leierbemagtigingsgedrag, organisasietoegewydheid en bedankingsgeneigdheid in die goudmynbedryf te bepaal. 'n Dwarsdeursnee-opname-ontwerp met 'n beskikbaarheidsteekproef ($N = 388$) is gebruik. Die Leierbemagtigingsgedrag-vraelys (LEBQ), Affektiewe Organisasietoegewydheid-skaal (AOC), en Bedankingsgeneigdheid-skaal (TI) is afgeneem. Die resultate het getoon dat leierbemagtigingsgedrag uit 'n sesfaktor-struktuur bestaan (d.i. delegering van verantwoordelikheid, aanspreeklikheid, selfgerigte besluitneming, inligtingsuitruiling, vaardigheidsontwikkeling en afrigting vir innoverende prestasie), organisasietoegewydheid uit 'n eenfaktor-struktuur (d.i. affektiewe organisasietoegewydheid) en bedankingsgeneigdheid uit 'n eenfaktor-struktuur (d.i. bedankings geneigdheid). Leierbemagtigingsgedrag is 'n betekenisvolle voorspeller van beide affektiewe organisasietoegewydheid en bedankingsgeneigdheid. Die mediator-effek van affektiewe organisasietoegewydheid kon nie bevestig word nie.

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Mining, more than any other industry, is an extremely diverse endeavour encompassing as it does a host of commodities from platinum to diamonds and coal to sand. These commodities are extracted from different geologies in many and varied parts of South Africa, and from beneath the country's oceans (Chamber of Mines, 2005). The development of the technical capacity to mine deep-level gold ore has seen South Africa becoming a world leader in deep-level mining technology (Chamber of Mines, 2005). This has led to gold mining becoming even more capital intensive due to the capital outlay required for ventilation, cooling, hoisting, underground tunnelling and surface processing plants, and the need to have mines operated by large numbers of workers, particularly with respect to hard rock mining.

Faced with the strain of maintaining work activities at levels of up to four kilometres below the surface, the most fundamental challenge for the industry is the productivity of their work-force and the impact this has on the cost of mining and the extraction of minerals (Chamber of Mines, 2005). To remain competitive, particularly with many low-cost emergent world producers, South Africa's mining industry has to focus more on productivity and cost trends (Chamber of Mines, 2005). These challenges place enormous pressure on both management and employees in the sector. As a result of coping with these challenges, many mining organisations may experience problems with high job demands and a lack of sufficient job resources (Chamber of Mines, 2005). If left uncontrolled, this may lead to different psychological problems, i.e. burnout, physical and psychological ill health. Above these challenges, mining organisations are also faced with the impact of HIV/AIDS and other related work hazards. As a result, the industry and specifically the gold mining industry are struggling to meet certain production targets. Not only faced now with productivity and cost problems, mining organisations are also faced with the dilemma of high sickness and absenteeism rates, and high turnover (Mogotsi, 2004).

A vital role in the development and sustainability of the South African economy is played by the mining industry. The contribution made to the South African economy is based on the ability of mining organisations to employ large numbers of people, to develop communities and skills (National Union of Mineworkers, 2004), and to be able to generate foreign exchange earnings (Chamber of Mines, 2005). As one of the anchors of the economy the industry assist in enabling

the country to become more competitive in the global village (Van Zyl, Human & Tshabalala, 2004).

Over the past decade, there has been a high degree of shrinkage in personnel in the mining sector (De Lange, 2005; Van der Walt, 2005). The number of employees on gold mines has more than halved, from 429 649 in 1991 to 197 091 in 2000 (Chamber of Mines, 2005). Much of the decline can be attributed to natural attrition as the industry has moved from a mass employer of limited, contract and unskilled labour, to an employer of more permanent, mostly semi-skilled to skilled labour. This reflects the industry's commitment to the development of human capital and the provision of career paths with adequate training (Chamber of Mines, 2005). Whilst the rate of decline in employee numbers slowed after the large fall during the 1997/98 gold price crisis, the decrease is expected to continue (Chamber of Mines, 2005).

In order to be able to cope with the continuous challenges faced by the mining industry, mining organisations need leaders of the highest standard. Due to the challenge of increasing productivity levels, empowerment is required within the gold mining industry. The correct application of empowerment may increase efficiency and effectiveness inside an organisation (Eylon & Herman, 1999). It increases productivity and reduces overhead expenses (i.e. salaries, rent and advertising) (Clark, 1999), and provides managers with the freedom to dedicate their time to strategic matters (Eylon & Herman, 1999). The success or failure of any organisation lies in how its leadership optimises its human capital (Robbins, 2003). Leaders are individuals who establish direction for a working group of individuals (Robbins, 2003). According to Conger (1989), leaders also have the responsibility to motivate the group members and to gain the group's commitment to the direction they have set. Bennis and Goldsmith (1994) define leadership as what leaders do, such as acting with integrity and competence, interpreting reality, explaining the present and painting a picture of the future. Gardner (1992) defines leadership as the process of influencing the activities of an individual or a group in efforts towards goal achievement in a given situation. Leadership is a process of giving purpose to collective effort, and causing others to willingly exert effort in order to achieve a specific purpose (Jacobs & Jacques, 1990). The latter authors regard leadership as a process in which one person sets the

purpose or direction for others and gets them to move along together with him/her in that direction with competence and commitment.

Leader empowering behaviour

Empowerment is a popular management practice, but there has been little research to identify empowering behaviours of leaders (Konczak, Stelly & Trusty, 2000). Researchers interested in empowerment, have focused their attention on construct definition and explication of the antecedents and consequences of empowerment (Conger & Kanungo, 1988). However, research concerning the leader's role in the empowerment process has not been considered in contemporary conceptualisations of psychological empowerment.

Leader empowering behaviour creates an environment that fosters success as employees are empowered through greater responsibility, decision-making authority, information and feedback as well as motivation, support and encouragement (Johnson, 1994). Empowerment means giving people the power to do the work as demanded by their position (Johnson, 1994).

Important concepts related to leader empowering behaviour seem to be:

- *Delegation of Authority.* This refers to an empowering behaviour on the part of the manager (Conger & Kanungo, 1988). This could increase intrinsic motivation by influencing task assessment related to meaning, competence, and self-determination (Thomas & Velthouse, 1990). It also seems that when subordinates are excluded from the delegating process that there is a resultant low working morale among workers and lower work performance (Mugyabuso, 2000).
- *Accountability for Outcomes.* Leaders who hold their employees accountable for the work outcomes motivate their employees to recognise one another for good team member performance (Blanchard, Carlos & Randolph, 1999).
- *Self-Directed and Participative Decision-making* is an important element of the empowerment process and thus leads to heightened feelings of self-efficiency on the employee's part (Tannenbaum, 1986).

- *Information Sharing* will enable employees to contribute optimally to organisational performance (Ford & Fottler, 1995).
- *Skills Development* refers to a leader spending time on securing or facilitating appropriate training to ensure that employees develop skills that will enable them to be productive at work (Konczak et al., 2000). Robbins (2003) is of opinion that employees who are afforded the opportunity to do a variety of jobs and are developed will experience increased levels of competence.
- *Coaching* contributes to a set of behaviours that educate employees to become self-reliant and subsequently productive (Konczak et al., 2000).

In a study undertaken by Konczak et al. (2000), leader empowering items were developed for each of the above-mentioned dimensions, and confirmatory factor analysis was used to evaluate the factor structure of the hypothesised dimensions comprising an instrument labelled the Leader Empowering Behaviour Questionnaire (LEBQ). They found that a six-factor structure fitted the data best. This instrument has, however, not previously been applied in the South African context.

There is, however, still many misperceptions on the application of empowerment in organisations. The use of force, the idea of empowerment being taught in a programme, and the prevailing attitude that someone in a position of authority can empower an employee are simply incongruent with the conscious decision of an individual to act in an empowered manner (Block, 1987). The members of an organisation are the primary resource for achieving success and fulfilling the purpose of the organisation. It is through individual employees that the corporate entity attempts to influence its environment and exercise control over its internal resources, processes, and outputs (Pope, 1996). The degree to which the organisation permits its members to exercise individual control is, in part, a function of the philosophical base on which its structure and administration are built. The essence of empowerment can be described as the enlargement of employees' jobs by giving them the responsibility and authority to make decisions about their work without supervisory approval, while creating value for the ultimate customer (Boone & Kurtz, 1998).

Empowerment is a consequence of a style of management, and not an action (Kahnweiler, 1991). This implies that one cannot get empowerment by forcing it, but by creating the conditions for empowerment to flourish. Empowerment is a process of helping people to help themselves or leading people to learn to lead themselves (Collins, 2003).

Empowerment also brings benefits to employees. It makes them feel better about their inputs to the organisation, promotes greater productivity, and provides employees with a sense of personal and professional balance (Bourke, 1998). It exercises employees' minds to find alternative and better ways to execute their jobs (Howard, 1997), and it increases their potential for promotions and job satisfaction. Leader empowering behaviour also results in personal growth, since the whole process enlarges employees' feeling of confidence and control within themselves and their organisation (Eylon & Herman, 1999). It is a process that makes workers utilise their full potential which enables them to support their decisions, assume risks, participate and take action (Eylon & Herman, 1999). Leader empowering behaviour creates a win-win situation as customers benefit from sharp employees; organisations benefit from satisfied customers and sharp employees; and employees benefit from improving their confidence and self-esteem (Vogt & Murrell, 1990). Work is such a large part of an employee's life and is represented by a belief that employees who are more satisfied with their work experiences and environment will stay longer in the organisation (Spector, 1997), will attend work regularly, and perform at an optimum level (Porter & Steers, 1973). The way leaders behave as they practise the organisation's human resources policies can influence employees' behaviour (Whitener, 2001). According to Whitener (2001), organisations that have supervisors who treat employees fairly as they enact procedures and human resource practices could increase their employees' trust in the organisation and supervisors, which will in turn positively affect the levels of organisational commitment.

Organisational Commitment

Organisational commitment is widely described in the management and behavioural sciences literature as a key factor in the relationship between individuals and organisations. For example, Gilbert and Ivancevich (1999), Mowday (1998), and Raju and Srivastava (1994) all describe

organisational commitment as the factor that promotes the attachment of the individual to the organisation. Employees are regarded as committed to an organisation if they willingly continue their association with that organisation and devote considerable effort towards achieving organisational goals (Mowday, 1998; Raju & Srivastava, 1994). These authors argue that the high levels of effort exerted by employees with high levels of organisational commitment would lead to higher levels of performance and effectiveness at both the individual and organisational level.

As there seems to be considerable evidence that committed employees are more valuable to the organisation than those with poor commitment (Mowday, 1998; Raju & Srivastava, 1994), researches have focussed on the identification of organisational factors that can be managed in order to foster employee commitment. Mowday, Steers and Porter (1979) have categorised these factors into four major categories of variables. These are personal characteristics (for example gender), job characteristics (such as task autonomy), work experiences (such as task significance) and structural characteristics (which may include organisational dependability). Some organisational factors that have been suggested to influence organisational commitment include organisational size, organisational culture, leadership style, and human resources management practices that influence salary, career prospects and possibilities for further education (Nijhof, De Jong & Beukhof, 1998). Among these, there are some factors such as organisational culture, leadership style, and human resource practices, which could be deliberately manipulated by organisations to influence the levels of organisational commitment in their employees.

Organisational commitment has been studied extensively among diverse professional groups (Allen & Meyer, 1990). The notion that commitment is important for the realisation of organisational and professional goals particularly in the mining institution has remained untapped by researchers. The study of employee commitment should be important to mining organisations as it might play an important role in the development of the skills and knowledge of employees of the future and the community as a whole (Chamber of Mines, 2005).

Organisational commitment is measured through affective, continuance and normative commitment, based on the three-component model of organisational commitment by Meyer and Allen (1991). Affective commitment refers to the employee's emotional attachment to, identification with and involvement in the organisation (based on positive feelings, or emotions, towards the organisation) (Meyer & Allen, 1991). The antecedents for affective commitment include perceived job characteristics (task autonomy, task significance, task identity, skill variety and supervisory feedback), organisational dependability (extent to which employees feel the organisation can be counted on to look after their interests) and perceived participatory management (extent to which employees feel they can influence decisions on the work environment and other issues of concern to them).

Continuance commitment refers to commitment based on the costs the employee associates with leaving the organisation (committed due to the high cost of leaving) (Allen & Meyer, 1990). Potential antecedents of continuance commitment include age, tenure, and career satisfaction. Age and tenure can function as predictors of continuance commitment, primarily because of their roles as surrogate measures of investment in the organisation (Meyer & Allen, 2001).

Normative commitment refers to an employee's feeling of obligation to remain with the organisation (based on the employee having internalised the values and goals of the organisation (Meyer & Allen, 1991). The potential antecedents for normative commitment include co-worker commitment (including affective and normative dimensions, as well as commitment behaviours), organisational dependability and participatory management. Co-workers' commitment is expected to provide normative signals that influence the development of normative commitment (Dodd-McCue & Nelson, 1996). Organisational dependability and perceived participatory management are expected to instil a sense of moral obligation to reciprocate to the organisation.

This study focuses on the relationship between one of the components of organisational commitment – affective commitment of employees in the mining industry. The association between affective commitment and turnover has been well established in previous research (Iverson & Buttigieg, 1999; Mathieu & Zajac, 1990; Mowday, Porter & Steers, 1982). The meta-analysis of Griffeth, Hom and Gaertner (2000) draws the inference that affective commitment is

one of the best predictors of voluntary turnover. Chen, Hui and Sgo (1999), and Jaros, Jermier, Koehler and Sincich (1993) have found a negative relationship between continuance commitment and turnover intentions.

According to Reichheld (1996), loyalty is by no means dead; it remains one of the great engines of business success. This is very relevant for the context of the mining industry. Organisations value commitment among their employees because it is typically assumed to reduce withdrawal behaviours, such as lateness, absenteeism and turnover. Hence there is no doubt that these values appear to have potentially serious consequences for overall organisational performance. Workers who become less committed to an organisation, will route their commitment in other directions (Meyer & Allen, 1997). Employees who develop a high level of organisational commitment tend to be highly satisfied and are fulfilled by their jobs (Allen & Meyer, 1990). Thus, understanding the dynamics of organisational commitment is essential in the development of proactive and innovative mining industries.

In the current global economic scenario, organisational change is a continuous process that requires support of all employees in the hierarchical structure. Having employees with the appropriate levels of organisational commitment facilitates the change management process and ensures its successful implementation (Muthuveloo & Rose, 2005). Human resource strategies related to employee recruitment, retention, reward and incentive policies need to be defined in a holistic manner, having the primary objective of encouraging employees to possess the appropriate type and level of organisational commitment (Meyer & Allen, 1997). Hence management needs to understand the dynamics of the relationships between various antecedents and organisational commitment. The future suggests flexibility, boundary-less communities and changes to work habits and methods, as we know them today. As work changes from a worker-intensive industrial society towards an automated information society, the retention of technological advantages and knowledge capital by an organisation is no longer assured (Muthuveloo & Rose, 2005).

From a macro viewpoint, skilled employee shortages are due either to insufficient availability of skilled employees or to high employee turnover (Mathieu & Zajac, 1990). Employee turnover

leads to skilled employee shortages and affects organisational outcomes. As organisational outcomes are directly proportional to organisational commitment, organisational outcomes can be improved by increasing employees' organisational commitment (Coleman, 2002).

Various studies have shown that the antecedents of organisational commitment such as personal traits, characteristics, group and leader relations and company attributes are related to the turnover intention of staff, but not much research to this effect has taken place in South Africa.

Turnover Intention

Employee turnover is important to individuals, organisations and society. From an individual's perspective, turnover can have both potentially positive and negative consequences - not only for him- or herself, but also for their family members and those who remain with the organisation, irrespective of whether or not they are closely associated with the person who has decided to leave the organisation (Saks, 2006). From the organisational perspective, employee turnover can be costly in terms of time and effort spent on lost recruitment, training, socialisation investments and disruption. From the societal perspective, turnover can bring lead to significant consequences which include mobility and migration to new industries and organisations for economic development (Firth, Mellor, Moore & Loquet 2003; Siong, Mellow, Moore & Firth 2006).

Retention and productivity levels of the existing work-force are an essential concern in the mining industry (Chamber of Mines, 2005). Employees may exit an organisation either voluntarily or involuntarily. Employees leave for a number of reasons, some to escape negative work environments, some due to their personal career goals, and some to pursue opportunities that are more financially attractive (Mathieu & Zajac, 1990). Turnover intention refers to the decision of employees to leave an organisation voluntarily (Dougherty, Bluedorn & Keon, 1985; Mobley, 1977). It has been identified as the immediate precursor for turnover behaviour (Mobley, Horner & Hollingsworth, 1978; Tett & Meyer, 1993).

It has been recognised that the identification of variables associated with turnover intentions is considered an effective strategy in reducing actual turnover levels (Maertz & Campion, 1998). An employee's exit from an organisation is a direct cost in the form of having to select, recruit, and train a new employee (Dalton, Todor & Krackhardt, 1982; Staw, 1980). The exiting of employees also has indirect cost implications that include reduced morale, pressure on the remaining staff, costs of learning, and the loss of social capital (Des & Shaw, 2001). The cost of losing a high performer who has a high degree of knowledge, skills and abilities, or an employee, who is employed in an area where there is a labour market shortage, can be substantial to the organisation's performance, productivity, and service delivery (Maertz & Campion, 1998).

Still very limited research exists supporting the argument that organisational characteristics such as leader empowering behaviour can affect the level of organisational commitment and turnover intention within organisations (Aryee & Heng, 1990). Given this situation, it is imperative that more research be done. The present study therefore aims at determining the relationship between leader empowering behaviour, organisational commitment and turnover intention specifically in the gold mining industry in South Africa.

Based on the discussions above, the following hypotheses are formulated:

- H1: Measuring instruments of leader empowering behaviour, affective organisational commitment and turnover intention are valid and reliable.
- H2: Affective organisational commitment mediates the effect of leader empowering behaviour on turnover intention.
- H3: Differences between demographic groups of employees exist regarding levels of leader empowering behaviour, affective organisational commitment and turnover intention.

METHOD

Research design

A cross-sectional design with a survey as technique of data collection was used to achieve the objectives of this research. Cross-sectional designs are used to examine groups of subjects in various stages of development simultaneously, while the survey describes a technique of data collection in which questionnaires are used to gather data concerning an identified population (Burns & Grove, 1993). This design is well suited to the descriptive and predictive functions associated with correlational research, whereby relationships between variables are examined (Shaughnessy & Zechmeister, 1997). Furthermore, structural equation modelling was used to address the problems associated with this design (Byrne, 2001).

Participants

The participants could be defined as a convenience sample of employees working in different sectors in the gold mining industry. A total population of 395 employees were targeted. A response rate of 100% was achieved, of which 388 responses (98%) could be utilised. Descriptive information of the sample is given in Table 1. The participants were targeted during production meetings and training programmes.

Table 1

Characteristics of the Participants

Item	Category	Frequency (Percentage)
Age	20 – 29 years	9 (2.30%)
	30-39 years	137 (38.18%)
	40 – 49 years	135 (33.88%)
	50 – 59 years	39 (9.98%)
	Older than 60 years	4 (1.01%)
	Missing values	9 (2.31%)
Gender	Male	326 (83.80%)
	Female	62 (15.96%)
	Missing values	1 (0.50%)

Table 1 (continued)

Characteristics of the Participants

Home Language	Afrikaans	142 (36,50%)
	English	29 (7,45%)
	Sepedi	6 (1,54%)
	Sesotho	55 (14,10%)
	Setswana	33 (8,48%)
	isiSwati	10 (2,57%)
	Tshivenda	8 (2,05%)
	isiXhosa	42 (10,79%)
	isiZulu	22 (5,65%)
	isiTsonga	19 (4,88%)
	Other	3 (0,77%)
	Missing values	20 (5,14%)
	Education	Grade 10	60 (15,42%)
Grade 11		35 (8,99%)
Grade 12		164 (42,15%)
Technical College Diploma		67 (17,22%)
Technikon Diploma		25 (6,42%)
University Degree		10 (2,57%)
Postgraduate Degree		13 (3,34%)
Missing values		0
Marital Status	Single	47 (2,57%)
	Married	278 (71,46%)
	Living with parents	31 (7,96%)
	Divorced or Separated	13 (3,34%)
	Remarried	16 (4,11%)
Years employed in current position	One to ten years	236 (60,82%)
	Eleven to twenty years	104 (26,81%)
	Twenty-one years or more	48 (12,37%)
Union Member	Yes	319 (82,00%)
	No	63 (16,19%)
	Missing values	7 (1,79%)

The sample consisted mainly of Afrikaans-speaking (36,50%), and married employees (71,46%) with a Grade 12 education (42,00%) working in the Gold mining industry. Most employees have been employed between one and ten years (60,82%). Most of the participants were union members (82,00%).

Measuring Battery

Information on the variables of interest were gathered by means of the Leader Empowering Behaviour Questionnaire (LEBQ) (Konczak et al., 2000), measures of affective organisational commitment (AOC) (Allen & Meyer, 1990), and turnover intention (TI) (Sjöberg & Sverke, 2000), and a biographical questionnaire.

The *Leader Empowering Behaviour Questionnaire* (LEBQ) (Konczak et al., 2000) is a 22-item scale that measures leader empowering behaviour. Items are measured on a 7-point likert scale ranging from 1 (strongly agree) to 7 (strongly disagree). Thus high scores indicate higher perceptions of empowering leader behaviours, e.g. "My manager gives the authority to make changes necessary to improve things". The LEBQ has shown internal consistency ratings ranging from $\alpha = 0,85$ to $0,90$ (Konczak et al., 2000; Laramore, 1997). No South African reliability results are available.

The *Affective Organisational Commitment Scale* (AOC) is the short version of the scale developed by Allen and Meyer (1990) measuring affective commitment to the organisation. The response alternatives ranged from 1 (disagree) to 5 (agree), and a high score reflects strong commitment to the organisation, e.g. "I have a strong sense of affinity to the organisation I work for". Inter-correlations between populations were found to be consistent above $0,90$ (Allen & Meyer, 1990). The internal consistency for this subscale of the questionnaire has been confirmed at the $0,80$ level (Suliman & Iles, 2000). In a South African sample of employees working in a parastatal, an alpha of $0,65$ were obtained (Buitendach & De Witte, 2005).

The *Turnover Intention Scale* (TI), consist of three items developed by Sjöberg and Sverke (2000) and measures the strength of the respondent's intentions to leave the present position. The response alternatives ranged from 1 (disagree) to 5 (agree), and a high score reflects a strong intention to leave the job, e.g. "If I was completely free to choose I would leave this job". Sjöberg and Sverke (2000) obtained an alpha of $0,83$. No South African reliability results are available.

A *biographical questionnaire* was developed to gather information concerning the demographical characteristics of the participants. Information gathered included age, gender, home language, education, marital status and years employed in the organisation.

Statistical analysis

The statistical analysis was carried out with the help of the SPSS programme (SPSS Inc., 2003) and the Amos programme (Arbuckle, 2003). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) were used to analyse the data. Cronbach alpha coefficients were used to determine the internal consistency, homogeneity and unidimensionality of the measuring instruments (Clark & Watson, 1995). Coefficient alphas contain important information regarding the proportion of variance of the items of a scale in terms of the total variance explained by that particular scale.

Pearson product-moment correlation coefficients were used to specify the relationship between the variables. In terms of statistical significance, it was decided to set the value at a 95% confidence interval level ($p \leq 0.05$). Effect sizes (Steyn, 1999) were used to decide on the practical significance of the findings. A cut-off point of 0,30 (medium effect, Cohen, 1988) was set for the practical significance of correlation coefficients.

Covariance analysis or structural equation modelling (SEM) methods, as implemented by AMOS (Arbuckle, 2003), were used to construct and test the theoretical factor structure of the Leader Empowering Behaviour Questionnaire. Hypothesised relationships are tested empirically for goodness-of-fit with the sample data. The χ^2 and several other goodness-of-fit indices summarise the degree of correspondence between the implied and observed covariance matrices. However, because the χ^2 statistic equals $(N-I)F_{min}$, this value tends to be substantial when the model does not hold and the sample size is large (Byrne, 2001). Researchers addressed the χ^2 limitation by developing goodness-of-fit indices that take a more pragmatic approach to the evaluation process.

A value < 2 for $\chi^2/\text{degrees of freedom ratio (CMIN}/df)$ (Wheaton, Muthén, Alwin & Summers, 1977) indicates acceptable fit (Tabachnick & Fidell, 2001). The Goodness-of-Fit Index (GFI) indicates the relative amount of variance and co-variance in the sample predicted by the estimates of the population. It usually varies between 0 and 1, and a result of 0,90 or above indicates a good model fit. The Adjusted Goodness-of-Fit Index (AGFI) is a measure of the relative amount of variance accounted for by the model, corrected for the degrees of freedom in the model relative to the number of variables. Both these values are classified as absolute values, because they compare the hypothesised model with no model at all (Hu & Bentler, 1995). Although both indices vary between 0 and 1, the distribution of the AGFI is unknown, and consequently no critical value can be obtained (Jöreskog & Sörbom, 1986). The Parsimony Goodness-of-Fit Index (PGFI) addresses the issue of parsimony in SEM (Mulaik et al., 1989). Although this index generally demonstrates lower levels compared to the other fit indices at the 0,50 level compared to values higher than 0,90, values $> 0,80$ are considered to be more appropriate (Byrne, 2001).

The Normed Fit Index (NFI) is used to measure global model fit. The NFI represents the point at which the model being evaluated falls on a scale running from a null model to perfect fit. This index is normed to fall on a 0 to 1 continuum and tends to overestimate fit in smaller samples. The Comparative Fit Index (CFI) also compares the hypothesised and independent models, but takes sample size into account. The Tucker-Lewis Index (TLI) is a relative measure of covariation explained by the hypothesised model which has been specifically designed for the assessment of factor models (Tucker & Lewis, 1973). Critical values for good model fit have been recommended for the NFI, CFI and TLI to be acceptable above the 0,90 level (Bentler, 1992), although recently Hu and Bentler (1999) recommended a cut-off value of 0,95. The Root Mean Square Error of Approximation (RMSEA) estimates the overall amount of error; it is a function of the fitting function value relative to the degrees of freedom (Brown & Cudeck, 1993). Hu and Bentler (1999) suggested a value of 0,06 to indicate acceptable fit, whereas MacCallum, Browne and Sugawara (1996) recently suggested that values between 0,08 and 1,0 indicate mediocre fit and values above 1,0 poor fit.

A multiple regression analysis was conducted to determine the mediating effect of affective organisational commitment between leader empowering behaviour and turnover intention. The procedures as described by Baron and Kenny (1986) were followed. Mediation can be illustrated by regressing the mediator on the independent variable and showing it to have an effect, then by showing the dependent variable to have an effect on the independent variable in the second regression, and finally by regressing the dependent variable on both the proposed mediator and the independent variable, and finding that the mediator affects the dependent variable (see Baron & Kenny, 1986).

Multivariate analysis of variance (MANOVA) was used to determine the significance of differences between the levels of leader empowering behaviour, affective organisational commitment, and turnover intention of demographic groups. MANOVA tests whether or not mean differences among groups in a combination of dependent variables are likely to have occurred by chance (Tabachnick & Fidell, 2001). In MANOVA, a new dependent variable that maximises group differences was created from the set of dependent variables. Wilk's Lambda was used to test the likelihood of the data, on the assumption of equal population mean vectors for all groups, against the likelihood on the assumption that the population mean vectors were identical to those of the sample mean vectors for the different group. When an effect was significant in MANOVA, one-way analysis of variance (ANOVA) was used to discover which dependent variables had been affected. Seeing that multiple ANOVAs were used, a Bonferroni-type adjustment was made for inflated Type I error. Tukey tests were done to indicate which group differed significantly when ANOVAs were performed.

RESULTS

Structural equation modelling with the aid of the AMOS program (Arbuckle, 2003) was used in order to test the original theoretical factorial model of the LEBQ (Konczak et al., 2000) with the empirical data. Analysis of the data was done by firstly studying the overall χ^2 goodness-of-fit statistic in conjunction with its degrees of freedom and probability or significant levels. Comparative fit indices, such as the Goodness-of-Fit Index (GFI), the Adjusted Goodness-of-Fit Index (AGFI), the Parsimony Goodness-of-Fit Index (PGFI), the Normed-Fit Index (NFI), the

Comparative-Fit Index (CFI), the Tucker-Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA) were also utilised to indicate the fit of the original theoretical factorial model of the LEBQ with the empirical data.

Table 2

Goodness-of-Fit Statistics for the hypothesised LEBQ model for employees in the gold mining industry

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Hypothesised One-Factor Model (Model 1)	459,59	3,86	0,87	0,83	0,68	0,85	0,87	0,89	0,09
Model 1 - errors correlated	283,59	2,47	0,92	0,89	0,69	0,91	0,93	0,94	0,06
Hypothesised Six-Factor Model (Model 2)	326,20	3,14	0,91	0,86	0,62	0,90	0,90	0,93	0,07
Model 2 - errors correlated	245,68	2,46	0,93	0,89	0,61	0,92	0,93	0,95	0,06

The first model that was tested (Model 1) hypothesised that the LEBQ consists of one factor, namely leader empowering behaviour. Results indicated that the model did not fit the data adequately (Table 2). Further modification of the model was thus required. Inspection of the modification indices (MI) revealed that the fit between the model and the data could be further improved if correlation was allowed between the measurement errors of items 13 and 14 (MI = 77,50), 12 and 13 (MI = 17,70), 4 and 5 (MI = 49,41) and 1 and 2 (MI = 20,31) The revised model (Model 1 – errors correlated) did indeed fit the data adequately (Table 2).

The second model that was tested (Model 2) hypothesised that the LEBQ consists of six factors, namely delegation of authority, accountability, self-directed decision-making, information sharing, skills development, and coaching for innovative performance. Results indicated that the model did not fit the data adequately (Table 2). Further modification of the model was thus required. Inspection of the modification indices (MI) revealed that the fit between the model and the data could be further improved if correlation was allowed between the measurement errors of items loading on skills development (i.e. items 12 and 13 (MI = 15,64)) and items loading on Accountability (items 4 and 5 (MI = 15,18 and items 5 and 6 (MI = 10,81)). The revised model (Model 2 – errors correlated) did indeed fit the data adequately (Table 2). Little difference

between the fit indices for the one- and six-factor models was indicated. However, it was decided to continue with the six-factor model to tease out possible unique contributions of different aspects of leader empowering behaviour.

Next, a principal components analysis was carried out on the affective organisational commitment items. An analysis of the eigenvalues (larger than 1) and the scree plot indicated that one factor could be extracted, explaining 45,26% of the total variance. This factor was labelled Affective Organisational Commitment (AOC). A principal component analysis was carried out on the turnover intention items. An analysis of the eigenvalues (larger than 1) and the scree plot indicated that one factor could be extracted, explaining 67,51% of the total variance. This factor was labelled Turnover Intention (TI).

The descriptive statistics and alpha coefficients of the measuring instruments are displayed in Table 3.

Table 3
Descriptive Statistics and Alpha Coefficients for the Measuring Instruments

Item	Mean	SD	Skewness	Kurtosis	α
Leadership Empowering Behaviour					
Delegation of Authority	11,18	2,99	-0,67	-0,12	0,78
Accountability	8,38	1,58	-0,84	0,14	0,63
Self-Directed Decision-Making	11,04	2,94	-0,56	-0,08	0,75
Info Sharing	7,18	2,28	-0,53	-0,62	0,78
Skills Development	10,58	3,37	-0,43	-0,73	0,78
Coaching for Innovative Performance	10,22	2,79	-0,26	-0,34	0,57
Affective Organisational Commitment					
	11,12	2,46	-0,35	-0,00	0,58
Turnover Intention					
	7,03	3,59	0,62	-0,58	0,76

Table 3 indicates that acceptable Cronbach alpha coefficients varying between 0,58 and 0,78 were obtained. These alpha coefficients compare reasonably well with the guideline of 0,70 (0,55 in basic research), demonstrating that a large portion of the variance is explained by the dimensions (internal consistency of the dimensions) (Nunnally & Bernstein, 1994), except for accountability ($\alpha=0,63$), coaching for innovative performance ($\alpha=0,57$) and affective

organisational commitment ($\alpha=0,58$). It is evident from Table 3 that most of the scales of the measuring instruments have relatively normal distributions, with low skewness and kurtosis.

Hypothesis 1, which stated that the measuring instruments of leader empowering behaviour (LEBQ), affective organisational commitment (AOC) and turnover intention (TI) are valid and reliable, was accepted, based on the above-mentioned results.

The product-moment correlation coefficients between the factors of leader empowering behaviour, affective organisational commitment and turnover intention are depicted in Table 4.

Table 4
Product-Moment Correlation Coefficients between Leader Empowering Behaviour, Affective Organisational Commitment and Turnover Intention

Item	1	2	3	4	5	6	7
1. Delegation of Authority	.	.	.	.	.	.	.
2. Accountability	0,44**	.	.	.	.	.	.
3. Self-Directed Decision-Making	0,76***	0,47**	.	.	.	.	.
4. Information Sharing	0,72***	0,37**	0,68***	.	.	.	.
5. Skills Development	0,66***	0,26**	0,58***	0,65***	.	.	.
6. Coaching for innovative performance	0,67***	0,35**	0,63***	0,60***	0,57***	.	.
7. Affective Organisational Commitment	0,47**	0,43**	0,49**	0,45**	0,37**	0,46**	.
8. Turnover Intention	-0,33**	-0,16*	-0,28*	-0,31**	-0,35**	-0,21*	-0,19*

* $p \leq 0,05$ – statistically significant

+ $r > 0,30$ – practically significant (medium effect)

++ $r > 0,50$ – practically significant (large effect)

Inspection of Table 4 shows that Delegation of Authority is statistically significantly and positively correlated (practically significant, large effect) to self-directed decision-making, information sharing, skills development and coaching for innovative performance. Delegation of authority is also statistically significantly positively correlated (practically significant, medium effect) to accountability and affective organisational commitment and statistically significantly

negatively correlated (practically significant, medium effect) to turnover intention. Accountability is statistically significantly and positively correlated (practically significant, medium effect) to self-directed decision-making, information sharing, coaching for innovative performance and affective organisational commitment. Self-directed decision-making is statistically significantly positively correlated (practically significant, large effect) to information sharing, skills development and coaching for innovative performance and statistically significantly, positively correlated (practically significant, medium effect) to affective organisational commitment.

Information sharing is statistically significantly, positively correlated (practically significant, large effect) to skills development and coaching for innovative performance and statistically significantly, positively correlated (practically significant, medium effect) to affective organisational commitment. Information sharing is statistically significantly, negatively correlated (practically significant, medium effect) to turnover intention. Skills development is statistically significantly, positively correlated (practically significant, large effect) to coaching for innovative performance and statistically significantly, positively correlated (practically significant, medium effect) to affective organisational commitment. Skills development is statistically significantly, negatively correlated (practically significant, medium effect) to turnover intention. Coaching for innovative performance is statistically significantly, positively correlated (practically significant, medium effect) to affective organisational commitment.

Next, the mediating effect of affective organisational commitment between leader empowering behaviour and turnover intention was investigated. According to Baron and Kenny (1986), this mediating effect can be illustrated by first regressing leader empowering behaviour on commitment, secondly by showing leader empowering behaviour to have an effect on predicting turnover intention, and thirdly by showing that turnover intention is affected by both commitment and leader empowering behaviour. Results of these regression analyses are reflected in Table 5 below.

Table 5

Regression Analyses estimating the Mediating Effect of Affective Organisational Commitment for Leader Empowering Behaviour in predicting Turnover Intention

Model		Unstandardised Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>
		B	Std Error	Beta			
Dependent Variable: Affective Organisational Commitment							
1	(Constant)	5,07	0,49		10,43	0,00	162,25
	Leader Empowering Behaviour	0,10	0,01	0,54	12,74	0,00*	
Dependent Variable: Turnover Intention							
2	(Constant)	12,69	0,79		16,02	0,00	53,57
	Leader Empowering Behaviour	-0,10	0,01	-0,35	-7,32	0,00*	
3	(Constant)	12,73	0,90		14,18	0,00*	26,72
	Leader Empowering Behaviour	-0,10	0,02	-0,35	-6,08	0,00*	
	Affective Organisational Commitment	-0,01	0,08	-0,01	-0,10	0,92	

Table 5 indicates that leader empowering behaviour is a statistically significant predictor of affective organisational commitment (Model 1). Model 2 shows that leader empowering behaviour is a statistically significant predictor of turnover intention. Model 3 shows that only leader empowering behaviour is a statistically significant predictor of turnover intention and that affective organisational commitment has no predictive value. Hypothesis 2, which stated that affective organisational commitment mediates the effect of leader empowering behaviour on turnover intention, is therefore rejected.

MANOVA analysis was conducted to determine the relationship between the levels of leader empowering behaviour, affective organisational commitment and turnover intention experienced and various demographic aspects such as supervisory position, union membership, gender, and language groups. The results of these comparisons are reported in Table 6.

Table 6

MANOVA – Differences in Leader Empowering Behaviour, Affective Organisational Commitment and Turnover Intention levels

Variable	Value	F	df	p	Partial Eta squared
Supervisory position	0,93	3,53	8,00	0,00*	0,07
Union membership	0,99	0,42	8,00	0,91	0,00
Gender	0,95	2,34	8,00	0,02*	0,05
Language groups	0,89	5,34	8,00	0,00*	0,11

* $p < 0,05$

In analysis of Wilk's Lambda values, no statistically significant differences ($p < 0,05$) regarding leader empowering behaviour, affective organisational commitment and turnover intention levels could be traced between the union membership of participants. However, statistically significant differences ($p < 0,05$) were found for supervisory position, gender and language groups. Participants in a supervisory position experience higher levels of delegation of authority and self-directed decision-making than participants that are not in a supervisory position. Female participants experience higher levels of affective organisational commitment, delegation of authority, skills development and coaching for innovative performance than male participants. African language groups experience higher levels of affective organisational commitment than Afrikaans/English language groups.

Hypothesis 3, which stated that differences between demographic groups of employees exist regarding levels of leader empowering behaviour, affective organisational commitment and turnover intention, is therefore only partially accepted, based on the above-mentioned information.

DISCUSSION

The aim of this study was to determine the relationship between leader empowering behaviour, affective organisational commitment, and turnover intention. Little research has been conducted to identify empowering behaviours of leaders, the dimensions of leader empowering behaviour

(Konczak et al., 2000) and the effect of leader empowering behaviour on aspects such as organisational commitment and turnover intention.

First, structural equation modelling with the aid of the AMOS program (Arbuckle, 2003) was used in order to test the original theoretical factorial model of the LEBQ (Konczak et al., 2000) with the empirical data. A one-factor model and a six-factor model were tested. Konczak et al (2000) tested a one-factor, six-factor and a seven-factor model. The seven-factor model had marginally acceptable fit, while the one-factor solution indicated poor model fit. Overall they found that a six-factor model provides a good description of the relationships among the LEBQ items (Konczak et al., 2000). Within the current study both the one- and six-factor models were found to fit the data adequately after errors were allowed to correlate. It therefore appears that leader empowering behaviour in the gold mining industry can consist of one-factor (labelled leader empowering behaviour) or of six factors (labelled delegation of authority, accountability, self-directed decision-making, information sharing, skills development, and coaching for innovative performance). Retaining the six different factors in subsequent research seems warranted, based on the premise that individual leader empowering behaviours may relate differently to different variables.

The factor structures of the AOC and the TI were initially determined with principal component analysis to determine the total factors of each instrument and followed up with principle axis factoring. A direct oblimer rotation was used when there was more than one factor and when the factors were found to be correlated. One commitment factor could be extracted, explaining 45,26% of the total variance. This factor was labelled Affective Organisational Commitment. Regarding turnover, one factor could be extracted, explaining 67,51% of the total variance. This factor was labelled Turnover Intention. Cronbach alpha coefficients varying between 0,58 and 0,78 were obtained. The alpha coefficients compare reasonably well with the guideline of 0,70 (0,55 in basic research), demonstrating that a large portion of the variance is explained by the dimensions (internal consistency of the dimensions) (Nunnally & Bernstein, 1994), except for accountability ($\alpha = 0,63$), coaching for innovative performance ($\alpha = 0,57$), and affective organisational commitment ($\alpha = 0,57$). Most of the scales of the measuring instruments have relatively normal distributions, with low skewness and kurtosis.

Pearson product-moment correlations were conducted to determine the relationship between leader empowering behaviour, affective organisational commitment and turnover intention. The results indicated that when leader empowering behaviour increases, affective organisational commitment will also increase, and when leader empowering behaviour (specifically delegation of authority, information sharing, and skills development) increases, turnover intention will decrease. Although the association between affective commitment and turnover has been well established in previous research (Iverson & Buttigieg, 1999; Mathieu & Zajac, 1990; Mowday et al., 1982) and affective commitment has been found to be one of the best predictors of voluntary turnover (Griffeth et al., 2000), no relationship could be established in a sample of employees in the gold mining industry.

Next, the mediating effect of affective organisational commitment between leader empowering behaviour and turnover intention was investigated. The results indicated that leader empowering behaviour is a statistically significant predictor of affective organisational commitment as well as turnover intention. However, the hypothesised mediating effect of affective organisational commitment could not be established and affective organisational commitment is therefore not a mediator between leader empowering behaviour and turnover intention in a sample of employees in the gold mining industry. Therefore a person's commitment should be assessed separately from LEB to determine whether the person is committed to his/her own development or to the company. Depending where the individual's commitment lies, this may have far reaching impact on the turnover of the company.

In investigating the relationship between the levels of leader empowering behaviour, affective organisational commitment and turnover intention experienced and various demographic aspects such as supervisory role, union membership, gender, and language groups, significant differences were found. Specifically, mixed findings have been reported on the relationship between gender and empowerment (Honneger & Appelbaum, 1998; Mainiero, 1986; Sagie, 2002; Spreitzer, 1996; Zani & Pietrantonio, 2001) as well as between age and empowerment (Honneger & Appelbaum, 1998), organisation size (Spreitzer, 1996; Wyer & Mason, 1999) and industry type (Cunningham, Hyman & Baldry, 1996).

The results with regards to this study indicated that participants in supervisory positions experience higher levels of delegation of authority and self-directed decision-making than participants that are not in a supervisory position. Supervisors are exposed to leader empowering behaviour to a much greater extent than subordinates. It is seen that supervisors need leader empowering behaviour to be successful, whereas this is not the case for subordinates. A reason for this situation could be that supervisors don't expose their subordinates to leader empowering behaviour because they feel that their subordinates could become a threat to their position.

Female participants experience higher levels of affective organisational commitment, delegation of authority, skills development and coaching for innovative performance than male participants. Historically, mining industries throughout the world have been monopolised by males and ruled by gender stereotyping. There is a perception that mining matters are the prerogative of men. In South Africa, however, constitutional reform forced the mining industries to acknowledge the right of the women to serve in all positions. The fact that women are appointed in mining positions will not necessarily make them feel fully accepted and empowered to play their role in the organisation. Thus, if women have been fully accepted and integrated in the mining industry, one would expect that there will be no significant difference in the experiences of males and females regarding leader empowering behaviour, that is, in terms of Konczak et al. (2000) leader empowering behaviour questionnaire (LEBQ), delegation of authority, accountability, self-directed decision-making, information sharing, skills development, and coaching for innovative performance. The results of a study done by Menon and Kotze (2004) concluded that gender plays a role in an individual's subjective experience of empowerment in the work situation.

African language groups experience higher levels of affective organisational commitment than Afrikaans/English language groups. Due to historical and political pressures, black employees and females are currently treated preferentially in terms of development, career opportunities and leader empowering behaviours. This reveals itself out of the study conducted in respect of blacks and females experiencing higher levels of affective organisational commitment, delegation of authority, skills development and coaching for innovative performance. In contrast to this, the white males, as per the study, exhibited less commitment to the organisation. They are not exposed to leader empowering behaviour in such an extent as the previous group.

Based on the results, hypothesis 1 was accepted, hypothesis 2 was rejected and hypothesis 3 was only partially accepted.

RECOMMENDATIONS

The mining industry has been under enormous pressure in the past few years particularly with issues concerning production and costs. As far as human capital is concerned, the gold industry has seen a high degree of shrinkage in personnel (De Lange, 2005, Van der Walt, 2005) and being faced with continuous challenges, mining organisations need leaders from the highest standards. Leader empowering behaviour can play a vital role in this regard. The correct application of leader empowering behaviour may increase efficiency and effectiveness within an organisation (Eylon & Herman, 1999). Appropriate levels of organisational commitment can also facilitate change management and reduce withdrawal behaviours such as lateness, absenteeism and turnover. The role of organisational commitment in retaining employees and in increasing productivity levels has become more important in the mining industry (Chamber of Mines, 2005).

Within the current study it is recommended that the role leader empowering behaviour plays in the productivity, commitment and retention of employees should be considered and further investigated. The use of the LEBQ to assess leader empowering behaviour, the AOC to assess affective organisational commitment and TI to assess turnover intention in employees in the mining industry should also be further investigated in other mining organisations.

The results indicated that participants in a supervisory position experience higher levels of delegation of authority and self-directed decision-making than participants that are not in a supervisory position. It is recommended that management should investigate the total spectrum of leader empowering behaviour to be extended to the lower levels. Supervisors must be trained to involve their subordinates, and encourage participation in decision-making. They also need to be trained to delegate responsibilities and authority to their subordinates, as a way of encouraging perceptions of empowerment. The role of leader empowering behaviour as a possible remedy for turnover intention also needs further clarification.

Female participants experience higher levels of affective organisational commitment, delegation of authority, skills development and coaching for innovative performance than male participants. Women must become involved at all levels of management, including strategic planning and decision-making. On the other hand the organisation also has a responsibility and must be sensitised for the experiences of women. Continuous interaction with women is necessary. An important aspect is that of mentorship and role models.

It is suggested that future research should focus on the reliability and validity of the LEBQ, the AOC and TI for other occupational settings, since the LEBQ, AOC and TI were found to be reliable and valid for this sample specifically. It is also important to determine norm levels for other occupations in South Africa for all the questionnaires respectively. It is recommended that larger samples with a more powerful sampling method be utilised to enable generalisation of the findings to other similar groups. Also, the use of adequate statistical methods, such as structural equation modelling, equivalence and bias analysis is recommended. It might also be necessary to translate the LEBQ, AOC and TI into other languages used in South Africa.

Affective Organisational Commitment and Turnover Intention are negatively related. According to Griffeth et al. (2000), affective commitment is one of the best predictors of voluntary turnover. This result was not obtained in the current study. Results also indicated that continuance commitment has an impact on turnover intention (Chen et al., 1999; Jaros et al., 1993). It is therefore recommended that the relationship between commitment (inclusive of affective, continuance and normative) and turnover intention should be investigated in similar samples to establish whether such a relationship exists.

A limitation of this study is that the design is cross-sectional. As a result, no causal inferences could be drawn, despite the use of advanced structural equation modelling techniques. Therefore the causal relationships between variables were interpreted rather than established, and more complex forms of non-recursive linkages could not be examined. Furthermore, the results were obtained solely by means of self-report measures. This may lead to a problem commonly referred to as "method variance" or "nuisance".

Another limitation is the size of the sample, specifically the distribution of language groups and the sampling procedure in the present study which has significant limitations in terms of generalisation of the findings applied to the total study population. Future studies could benefit hugely in terms of a stratified random-sample design which would ensure sufficient representation of the different groups in the total population of employees in the mining industry.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The purpose of this chapter is to provide conclusions regarding the results of the empirical study. Conclusions are drawn with regard to the research objectives. Furthermore, limitations of the study are discussed. Finally, recommendations for the industry are made and research opportunities that emanate from this research are presented.

3.1 CONCLUSIONS

The general objective of this research was to determine the relationship between leader empowering behaviour, organisational commitment, and turnover intention within the gold mining industry in South Africa. Based on the results of the research article, the following conclusions can be made:

The first objective of this study was to conceptualise leader empowering behaviour, organisational commitment and turnover intention from the literature. **Leader empowering behaviour** was conceptualised within six subscales, namely delegation of authority, accountability, self-directed decision-making, information sharing, skills development and coaching for innovative performance (Koncsak, Stelly & Trusty, 2000). Leader empowering behaviour, according to Johnson (1994), creates an environment that fosters success, since employees are empowered through greater responsibility, decision-making authority, information and feedback as well as motivation, support, and encouragement. Empowerment means giving people the power to do the job demanded by their positions (Johnson, 1994, p19).

Organisational commitment is widely described in the management and behavioural sciences literature as a key factor in the relationship between individuals and organisations. Gilbert and Ivancevich (1999), Mowday (1998), and Raju and Srivastava (1994) describe organisational commitment as the factor that promotes the attachment of the individual to the organisation. Employees are regarded as committed to an organisation if they willingly continue their

association with the organisation and devote considerable effort to achieving organisational goals (Mowday, 1998; Raju & Srivastava, 1994).

Turnover intention is defined as an employees' decision to leave an organisation voluntarily (Dougherty, Bluedorn & Keon, 1985; Mobley, 1977). Employees leave for a number of reasons, some to escape negative work environments, some are more in alignment with their career goals, and some to pursue opportunities that are financially more attractive (Mathieu & Zajac, 1990). Involuntary turnover is usually employer initiated, thus when the organisation wishes to terminate the relationship due to incompatibilities in matching its requirements. However, involuntary turnover can also include death, mandatory retirements, and ill health (Mobley, Horner & Hollingworth, 1978).

The second objective was to determine the relationship between leader empowering behaviour, organisational commitment, and turnover intention according to the literature.

Identified determinants of empowerment may be grouped into four major categories, namely: person factors which comprise employee demographics (Mainiero, 1986; Spreitzer, 1996; Zani & Pietrantonio, 2001) and psychological variables (Dimitriades, 2002; Honneger & Appelbaum, 1998; Menon, 2001; Menon & Hartmann, 2000; Spreitzer, 1995); job and/or work role factors (Cagne, Senecal & Koestner, 1997; Hayes, 1994; Savery & Lucks, 2001; Spreitzer, 1996); organisation factors (Menon, 2001; Menon & Pethe, 2002; Sagie, 2002; Siegall & Gardner, 2000; Spreitzer, 1995, 1996); and context factors (Cunningham, Hyman & Baldry, 1996). Reported outcomes of employment empowerment include job involvement (Menon, 2001; Menon & Pethe, 2002); job satisfaction (Hayes, 1994; Savery & Lucks, 2001); organisational commitment (Menon, 2001); and extra-role behaviour (Menon, 2001).

The association between affective commitment and turnover has been well established in previous research (Iverson & Buttigieg, 1999; Mathieu & Zajac, 1990; Mowday, Porter & Steers, 1982). The meta-analysis of Griffeth, Hom and Gaertner (2000) draws the inference that affective commitment is one of the best predictors of voluntary turnover.

Turnover intention refers to the decision of employees to leave an organisation voluntarily (Dougherty et al., 1985; Mobley, 1977). It has been identified as the immediate precursor for turnover behaviour (Mobley et al., 1978; Tett & Meyer, 1993). It has been recognised that the identification of variables associated with turnover intentions is considered an effective strategy in reducing actual turnover levels (Maertz & Campion, 1998).

The third objective of this study was to determine the construct equivalence and internal consistency of the Leader Empowering Behaviour Questionnaire (LEBQ), the Affective Organisational Commitment scale (AOC) and the Turnover intention scale (TI) for employees in the mining industry. Structural equation modelling with the aid of the AMOS program (Arbuckle, 2003) was used in order to test the original theoretical factorial model of the LEBQ (Konczak et al., 2000) against the empirical data. A one-factor model and a six-factor model were tested. Both the one- and six-factor models were found to fit the data adequately after errors were allowed to correlate. It therefore appears that leader empowering behaviour in the gold mining industry can consist of one factor (labelled leader empowering behaviour) or of six factors (labelled delegation of authority, accountability, self-directed decision-making, information sharing, skills development, and coaching for innovative performance).

The factor structures of the AOC and the TI were initially determined with principal component analysis to determine the total factors of each instrument and this was followed up with principle axis factoring. A direct oblimum rotation was used when there was more than one factor and when the factors were found to be correlated.

One factor could be extracted on the AOC, explaining 45,26% of the total variance. This factor was labelled Affective Organisational Commitment. One factor could be extracted on the TI, explaining 67,51% of the total variance. This factor was labelled Turnover Intention.

Cronbach alpha coefficients varying between 0,58 and 0,78 were obtained. The alpha coefficients compare reasonably well with the guideline of 0,70 (0,55 in basic research), demonstrating that a large portion of the variance is explained by the dimensions (internal consistency of the dimensions) (Nunnally & Bernstein, 1994), except for accountability ($\alpha =$

0,63), coaching for innovative performance ($\alpha = 0,57$) and affective organisational commitment ($\alpha = 0,57$). Most of the scales of the measuring instruments have relatively normal distributions, with low skewness and kurtosis.

The fourth objective was to determine the relationship between leader empowering behaviour, affective organisational commitment and turnover intention within the gold mining industry. A Pearson product-moment correlation was conducted to determine the relationship between leader empowering behaviour, affective organisational commitment and turnover intention within the gold mining industry. The results indicated that when leader empowering behaviour increases, affective organisational commitment will also increase, and when leader empowering behaviour (specifically delegation of authority, information sharing, and skills development) increases, turnover intention will decrease. Although the association between affective commitment and turnover has been well established in previous research (Iverson & Buttigieg, 1999; Mathieu & Zajac, 1990; Mowday et al., 1982) and affective commitment has been found to be one of the best predictors of voluntary turnover (Griffeth et al., 2000), no relationship could be established in a sample of employees in the gold mining industry.

The fifth objective was to determine the mediating effect of affective organisational commitment between leader empowering behaviour and turnover intention. The results indicated that leader empowering behaviour is a statistically significant predictor of affective organisational commitment as well as turnover intention. However, the hypothesised mediating effect of affective organisational commitment could not be established and affective organisational commitment is therefore not a mediator between leader empowering behaviour and turnover intention in a sample of employee in the gold mining industry.

The sixth objective was to determine the differences in leader empowering behaviour, organisational commitment and turnover intention experienced, based on certain demographic factors. The results indicated that participants in supervisory positions experience higher levels of delegation of authority and self-directed decision-making than participants that are not in a supervisory position. Female participants experience higher levels of affective organisational commitment, delegation of authority, skills development and coaching for innovative

performance than male participants. African language groups experience higher levels of affective organisational commitment than Afrikaans/English language groups.

3.2 LIMITATIONS OF THIS RESEARCH

The first limitation of this study was the cross-sectional design. Despite the use of advances in structural equation modelling techniques, no causal inferences could be drawn. The causal relationships between variables were interpreted and not established. More complex forms of non-recursive linkages could not be examined. To deal with the limitation of the use of a cross-sectional design, prospective longitudinal and quasi-experimental research designs are needed to further validate the hypothesised causal relationships within this study.

Secondly, since data was collected from the different departments within the mining industry at different points in time, unique organisational characteristics and/or historical events may have affected the findings. Also, because of the average levels of education of the respondents, as well as the array of language and cultural groups included in the study, the interpretation of questions could have differed vastly among participants.

Thirdly, the size of the sample was a limitation to this study, specifically the distribution of language groups. Within the sample the distinction between cultural groups could not be made due to a low representation of some cultural groups. A distinction was made in terms of the language groups, i.e. an Afrikaans and English language group (43,95% representation) and a combined African language group (50,83% representation).

Fourthly, the results were obtained solely by self-report measures. This may lead to a problem known as “method variance” or “nuisance”. However, several authors argued that this phenomenon is not a major threat if interactions are found (Dollard & Winefield, 1998). Nonetheless, research, including more objective measures of perceptions of leader empowering behaviour, organisational commitment and turnover intention, are needed.

Fifthly, the sampling procedure created problems, and future studies could benefit from using a stratified random-sample design which would ensure sufficient representation of the different groups in the total population and will enable generalisation of findings to the total study population.

One language, namely English, being the only language used for questionnaires, represents the sixth limitation. The possibility exists that the level of English language skills or respondents speaking English as their second, third, fourth or even lower language could have influenced the results.

Another limitation of this study was that there is a possibility that some employees who participated in this research did not totally trust the confidentiality statement set out in the covering letter accompanying the questionnaires. This could have influenced some of the results.

3.3 RECOMMENDATIONS

Recommendations pertaining to the specific organisation used in this study, as well as recommendations for future research, are made in this section.

3.3.1 Recommendations for the organisation

The current study adds to researcher's efforts to understand the relationship between leader empowering behaviour, organisational commitment and turnover intention. This study contributes a new direction in the research on organisational commitment by opening up a debate on the importance of leader empowering behaviour in the development of organisational commitment.

Empirical evidence appears to support the view that leader empowering behaviour can influence turnover intention within the mining industry as well as the levels of affective organisational commitment. Organisations that require their employees to develop organisational commitment should provide a supportive work environment, which creates a mutually beneficial environment.

This has practical implications for employees. Organisations should demonstrate their commitment to the employees by delegating authority, providing comprehensive training, sharing information, provide for the development and growth of employees within the organisation and offer more than market related incentives.

Managers interested in fostering commitment among their employees can gain by seeking guidance from the growing literature on “high commitment Human Resource Management”. They should, however, select and adopt human resources practices that would contribute to the perceptions of the organisation’s commitment to its employees and indirectly to the development of affective commitment.

A managerial approach that is based on leadership empowering behaviour grounded on sharing information, delegation of authority, accountability, skills development. self-directed decision-making and coaching for innovative performance has significant implications for managing employee behaviour. Open and accurate communication creates an impression that the organisation cares and values the employee as a partner (Whitener, 1998). Therefore, providing explanation of managerial decisions that affect employee welfare, the future of the organisation and other labour issues, would facilitate the development of trust as it reduces speculation on the part of the employee.

Mining industries need to reflect on their human resources practices and the type of organisational commitment they induce. The mining industry should use all opportunities to review the human resources practices and leadership styles and efforts should be made to adopt those human resource practices that promote the personal development and growth of employees.

It is recommended that implementation of any intervention should focus on the individual, managerial and organisational practices to enhance affective organisational commitment. The understanding of affective organisational commitment and leader empowering behaviour and its dimensions, delegation of authority, accountability, self-directed decision-making, information sharing, skills development and coaching, should be clear to all. Managers and mining

employees should become aware of the factors that decrease the levels of organisational commitment, thus understanding their perceptions of leader empowering behaviour within the organisation, and work towards a motivated and positive perception of the organisation. This could help them to become aware of the symptoms of low organisational commitment within the work environment and enable them to intervene before the effects become too serious.

3.3.2 Recommendations for future research

Despite the limitations of this study, the present findings have important implications for future research and practice. Very little research has been done within the gold mining industry which may have an effect on how these members generally perform.

With regard to intervention research in South Africa, the following aspects need to be considered in future research:

- Longitudinal studies to establish the causal relationships among the variables.
- To enhance external validity, future research efforts should obtain a representative sample from more institutions.
- The effects of individual and organisational interventions should be investigated.
- Appropriate designs and acceptable sample sizes should be used when conducting research.
- Using international statistics can be relevant when recommendations and interventions are formulated.
- Practical significance of findings should be computed in addition to statistical significance.

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